

REMARKS

In response to the Office Action dated July 29, 2004, Applicant respectfully requests reconsideration and withdrawal of the rejections of the claims.

Claims 1, 2, 4-8, 10-14 and 16-20 were rejected under 35 U.S.C. §102, on the grounds that they were considered to be anticipated by the *Collette* patent (U.S. 5,081,529). Claims 3, 9 and 15 were rejected under 35 U.S.C. §103, as being unpatentable over the *Collette* patent in view of the *Yamakawa et al.* patent (U.S. 5,809,366). It is respectfully submitted that the color and tone calibration technique disclosed in the *Collette* patent is different from the presently claimed invention, and therefore the patent does not anticipate, nor otherwise suggest, the subject matter of the claims, whether considered by itself or in combination with the *Yamakawa* patent.

The claimed invention employs a two-phase approach to color correction, namely global color correction and local color correction. The global color correction is performed with respect to a reference image having a plurality of colors. For example, as depicted in Figure 6 of the application, a first reference image 311a comprising an outdoor scene, and/or 311b, comprising a portrait of a human face, is employed. These reference images contain a plurality of colors. A number of modulated images 312a or 312b are derived from these reference images, by modulating one or more color parameters, such as hue, saturation, lightness or contrast. This modulation is performed globally on the image as a whole. In other words, the modulation is applied to the plurality of colors in the image. In the example of Figure 6, nine modulated images 312 are derived from each reference image 311, and each modulated image differs from the others by adjusting the values of one or more of the parameters. As discussed in more detail below, this

plurality of modulated images is used to globally correct the information for transforming image data to print data. In other words, the correction applies to the entirety of the color space for the image data. See the specification, for example, at page 13, lines 16-19.

In the second phase of the process, local color correction is performed. In contrast to the global color correction, in which the correction is applied to the entire color space, i.e., a plurality of colors, local color correction is carried out with respect to a specific color. In this phase, therefore, a second reference image 321 (Figure 8) that consists of a single color is utilized (page 14, lines 16-17). In a manner similar to the first phase, a plurality of modulated images 322 are derived from the reference image, by varying parameters such as hue, saturation and luminance. Based upon a selected one of these modulated images, correction is then performed with respect to the single color that makes up the reference image 321.

It is respectfully submitted that the *Collette* patent does not disclose a calibration technique that employs both global and local color correction. Rather, the *Collette* patent only utilizes global color correction, i.e., across the entire color spectrum. In the specific approach disclosed in the *Collette* patent, tone correction is first carried out, followed by color matching. In other words, the *Collette* patent teaches that the adjustment of luminance is performed separately from the adjustment of hue and saturation. The Office Action appears to be taking the position that the color matching technique of the *Collette* patent corresponds to the global color correction phase of the present invention, and that the tone correction process of the *Collette* patent corresponds to the local color correction of the present invention. It is respectfully submitted, however, that the tone correction described in the *Collette* patent is not the same as the local correction recited in the pending

claims. For instance, claim 1 recites that the controller controls the printer to print a plurality of second modulated images of a second reference image consisting of a single color, where each of the second modulated images is obtained by modulating at least one parameter of the single color. There is no disclosure in the *Collette* patent of such a local process that is directed to a single color. Rather, the tone correction process of that patent adjusts the brightness for the image as a whole. In other words, the brightness applies across the entire color spectrum, and not to just a single color.

Accordingly, it is respectfully submitted that the *Collette* patent does not anticipate the claims for at least this reason. Specifically, with reference to claim 1, it does not disclose a controller which prints a plurality of first modulated images "of a first reference image having a plurality of colors, each of said first modulated images being obtained by globally modulating at least one color parameter for the plurality of colors in said first reference image," *and* controlling the printer to print a plurality of second modulated images "of a second reference image consisting of a single color, each of said second modulated images being obtained by modulating at least one parameter of said single color." For similar reasons, the *Collette* patent does not anticipate each of the other independent claims, nor their dependent claims.

Furthermore, claim 13 recites a method in which the global color correction is performed first, followed by the local color correction. Specifically, the claim recites the step of controlling a printer to print a plurality of first modulated images of a first reference image having a plurality of colors, on the basis of first information. This first information is corrected on the basis of a selected one of these first modulated images to obtain second information, i.e. the global correction. The claim then goes on to recite the step of controlling the printer to print a plurality of second modulated

images obtained by modulating a color of a second reference image consisting of a single color, on the basis of this second information. Since this second printing step (step d of claim 13) is based on the second information, it necessarily occurs after step c in which the second information is obtained. This second information is then corrected on the basis of a selected one of the second modulated images, to obtain third information, i.e. the local correction. In other words, the local color correction, to obtain the third information, is not performed until after the global color correction, to obtain the second information, has been carried out.

In the rejection of claim 13, the Office Action refers to the color matching technique as corresponding to the global correction step. The Office Action further refers to the tone correction technique as corresponding to the local correction phase. In the calibration technique of the *Collette* patent, the tone correction is first performed, followed by the color matching. See column 8, lines 46-47. Thus, even if one were to accept the interpretation set forth in the rejection, for the sake of argument, it can be seen that the *Collette* patent does not perform the corrections in the same sequence as recited in the claim. In other words, if the color matching step is considered to be the correction of the first information to generate second information, the patent does not disclose that second modulated images, e.g. a tone scale test pattern, is printed on the basis of this second information. Rather, in the process of the *Collette* patent, the tone correction is *first* conducted, followed by the color matching.

For this additional reason, therefore, the *Collette* patent does not anticipate the subject matter of claim 13, or its dependent claims.

In addition to the fact that the *Collette* patent does not disclose a two-phase correction process that employs both global and local color correction, it also differs

from the claimed invention in the manner in which the correction is carried out.

Referring again to Figure 6 of the present application, in connection with the global color correction, a plurality of modulated images 312 are derived from the reference image 311. Each of these images differs from the other in at least one of hue, saturation, luminance or contrast. The user selects one of these modulated images 312 that best matches the reference image 311 that is displayed on a monitor 91. The correction of the image data is then carried out on the basis of the modulated image that was selected. For example, if the selected modulated image 312 differs from the reference image 311 by a particular saturation value, that saturation value is used to correct the image data.

The *Collette* patent does not disclose this technique, in which a plurality of modulated images are printed, and one of those images is selected to establish the correction factor. Rather, in the technique of the *Collette* patent, a *single* image is printed. Then, the operator adjusts the *displayed* image until it matches the printed image. For example, as stated in column 9, lines 1-3, "As with tone scale, the operator adjusts the color controls to make the monitor look as close to, i.e., 'as bad as ', the print as possible." Once the displayed image has been adjusted to look like the printed image, the amount of adjustment is used to calibrate the printer in an inverse manner, to provide a result that is closer to the original monitor image.

From the foregoing, therefore, it can be seen that the *Collette* patent does not disclose a color correction technique which employs the steps of (a) printing a *plurality* of modulated images from a reference image, (b) *selecting* one of these modulated images, and (c) correcting image transformation data on the basis of the *selected* modulated image. The *Collette* patent requires the user to actively adjust the displayed image to match the printed image, rather than providing the user with a

choice of printed images to select as the best match. It is respectfully submitted that this distinguishing process, or the apparatus for implementing its steps, is recited in each of the independent claims.

For this additional reason, therefore, it is respectfully submitted that the *Collette* patent does not anticipate the independent claims, nor any of their dependent claims. Furthermore, it is respectfully submitted that the *Yamakawa* patent does not contain any disclosure that renders obvious the distinctions between the claimed subject matter and the *Collette* patent.

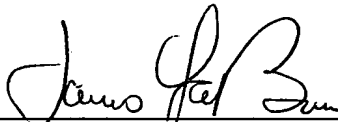
Reconsideration and withdrawal of the rejections, and allowance of all pending claims are respectfully requested.

Respectfully submitted,

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